

IN THE CLAIMS:

Please add new claims 16-29 and amend the claims as follows:

- 1-7. (Canceled)
8. (Currently amended) A method for cleaning a process chamber located in a processing system for semiconductor and/or flat panel display manufacturing, comprising:
- generating a fluorine cleaning gas from ~~hydrofluoric acid~~ hydrogen fluoride, said fluorine cleaning gas generated on-site in communication with the processing system but remote to the process chamber, said generating comprising:
    - converting said ~~hydrofluoric acid~~ hydrogen fluoride to a gas mixture consisting essentially of said ~~hydrofluoric acid~~ hydrogen fluoride and said fluorine gas;
    - transferring the gas mixture to a cold trap;
    - converting said ~~hydrofluoric acid~~ hydrogen fluoride in said gas mixture into a liquid ~~hydrofluoric gas~~ hydrogen fluoride; and
    - removing said liquid ~~hydrofluoric acid~~ hydrogen fluoride from the cold trap, said fluorine cleaning gas remaining in a gaseous form;
    - activating said fluorine cleaning gas to form fluorine radicals; and
    - cleaning the process chamber with said fluorine radicals.
9. (Previously presented) The method of claim 8, wherein said fluorine cleaning gas is pumped into an on-site storage unit prior to said activating said fluorine cleaning gas.
10. (Currently amended) The method of claim 8, wherein said fluorine cleaning gas is activated to form fluorine radicals inside the process chamber ~~or wherein said fluorine cleaning gas is activated to form fluorine radicals outside~~

~~the process chamber, said fluorine radicals subsequently delivered to the process chamber.~~

11. (Currently amended) The method of claim 8, wherein activating said fluorine cleaning gas is via a plasma source, ~~heat source, or an electrical source.~~

12. (Currently amended) The method of claim 11, wherein said plasma source is a microwave energy source ~~or a radiofrequency energy source.~~

13-14. (Canceled)

15. (Currently amended) The method of claim 8, wherein said converting said ~~hydrofluoric acid~~ hydrogen fluoride is via electrolysis.

16. (New) The method of claim 8, wherein said fluorine cleaning gas is activated to form fluorine radicals outside the process chamber, said fluorine radicals subsequently delivered to the process chamber.

17. (New) The method of claim 8, wherein activating said fluorine cleaning gas is via a heat source.

18. (New) The method of claim 8, wherein activating said fluorine cleaning gas is via an electrical source.

19. (New) The method of claim 11, wherein said plasma source is a radiofrequency energy source.

20. (New) The method of claim 16, wherein activating said fluorine cleaning gas is via a plasma source.

21. (New) The method of claim 16, wherein activating said fluorine cleaning gas is via a heat source.
22. (New) The method of claim 16, wherein activating said fluorine cleaning gas is via an electrical source.
23. (New) The method of claim 20, wherein said plasma source is a microwave energy source.
24. (New) The method of claim 20, wherein said plasma source is a radiofrequency energy source.
25. (New) A method for cleaning a process chamber located in a processing system for flat panel display manufacturing, comprising:  
generating a fluorine cleaning gas from hydrogen fluoride, said fluorine cleaning gas generated on-site in communication with the processing system but remote to the process chamber, said generating comprising:  
converting said hydrogen fluoride to a gas mixture consisting essentially of hydrogen fluoride and said fluorine gas;  
transferring the gas mixture to a cold trap;  
converting said hydrogen fluoride in said gas mixture into a liquid hydrogen fluoride; and  
removing said liquid hydrogen fluoride from the cold trap, said fluorine cleaning gas remaining in a gaseous form;  
activating said fluorine cleaning gas to form fluorine radicals; and  
cleaning the process chamber with said fluorine radicals.
26. (New) The method of claim 25, wherein said fluorine cleaning gas is pumped into an on-site storage unit prior to said activating said fluorine cleaning gas.

27. (New) The method of claim 25, wherein said fluorine cleaning gas is activated to form fluorine radicals inside the process chamber.
28. (New) The method of claim 25, wherein said fluorine cleaning gas is activated to form fluorine radicals outside the process chamber, said fluorine radicals subsequently delivered to the process chamber.
29. (New) The method of claim 25, wherein said converting said hydrogen fluoride is via electrolysis.